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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER

TOWFIGHI, AFSHAWN M

ART UNIT

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/534,616	Applicant(s) AKEN ET AL.	
	Examiner AFSHAWN TOWFIGHI	Art Unit 2458	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 21 April 2010.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-8 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-8 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|-------------------------------------------------------------------------------------|-------------------------------------------------------------------|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. Claims 1-8 are pending.

Response to Arguments

2. Applicant's arguments filed with respect to claims 1-8 have been fully considered but they are not persuasive.

Applicant argues that Templin does not teach "storing an association of the private IPv4 source address and the interface ID value of the 6to4 source address for opposite address translation of inbound packets returned by the remote host", and that the combination of Templin and Carpenter would not have been obvious because the two systems do not work the same way and are incompatible.

The examiner respectfully disagrees with the applicant's response. Carpenter teaches the translation steps from 6to4 in claim 1 (see citations for claim 1). While Carpenter may not teach using the storing the "source addresses and ID's" for opposite address translation, Templin is used to show that in any system using 6to4 address translation, it would be advantageous to have a reverse (opposite) address translation so that messages can be mapped back from destinations to originating nodes. The combination of the references would suggest the mapping (storing of an association) would map the fields of Carpenter (source addresses and ID's) in a reverse order for translation. The combination is compatible because the examiner uses Templin to

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show a single “feature” that would be obvious to combine with Carpenter (reverse network translation map). Reverse translation is desirable so that a destination node can easily send back responses and have the responses automatically routed back the correct node. Adding this single feature to Carpenter would make carpenter more efficient and not inoperable. Therefore, the combination of Carpenter and Templin is compatible and does teach the argued limitations.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over B. Carpenter, et al., Connection of IPv6 Domains via IPv4 Clouds (Network Working Group) (referred to herein as “Carpenter”), in view of U.S. Patent Application Publication No. 2001/0040895 to Templin.

1. Regarding claim 1, Carpenter teaches a method for supporting a 6to4 tunneling protocol across a network address translation mechanism comprising the steps of :

- receiving from a first host located on a first network an outbound IPv6 packet encapsulated into an IPv4 packet, the IPv4 packet comprising a IPv4 header with a private IPv4 source address of the first host, the outbound IPv6 packet comprising a

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IPv6 header with a 6to4 source address, the IPv6 header comprising an Interface ID value (See page. 4, paragraph 1.1, lines 3-6; wherein the first network is an IPv6 network; page 5, par. 2; wherein the SLA ID is the 6to4 source address, the Interface ID is the Interface ID value and the SLA ID and Interface ID together make up the IPv6 header); - translating the private IPv4 source address in the IPv4 header into a public IPv4 source address (See p. 4, par. 1.1, line 13, and p. 5, par. 2; wherein the V4ADDR is the private address and the 6to4 address is the public address), and - transmitting the translated packet over an IPv4 network to a remote host (See p. 6, par. 3, lines 1-2).

Carpenter does not teach storing an association of the private IPv4 source address and the Interface ID value of the 6to4 source address for opposite address translation of inbound packets returned by the remote host. However, Templin teaches this limitation (See paragraph 255, lines 1-6; wherein mapping, includes storing an association; the actual IPv4 address, is the private IPv4 address, and the identifier, is the ID value).

Combining the features of Templin with the system of Carpenter would have allowed for return communications over a heterogeneous network, thereby allowing devices on an IPv6 network to send packets to, and receive packets from, devices on an IPv4 network. Therefore, it would have been obvious to one of ordinary skill in the art, at the time of the invention to combine Templin with Carpenter.

2. Regarding claim 2, Carpenter in view of Templin teach the invention as described in claim 1. Carpenter further teaches receiving an inbound packet over the IPv4 network (See p. 9, lines 1-2); - determining whether the inbound packet encapsulates

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an IPv6 packet (See p. 9, lines 2-4); - in the affirmative, retrieving the Interface ID of the encapsulated IPv6 packet's destination address, and using the Interface ID to retrieve the corresponding stored private IPv4 address (See p. 13, par. 5.3, lines 5-8), and updating the destination address in the IPv4 header accordingly (See p. 13, par. 5.3, lines 9-19); - forwarding the modified, encapsulated IPv6 packet on the first network (See p. 14, lines 1-3).

3. Regarding claim 3, Carpenter in view of Templin teach the invention as described in claim 1. Carpenter further teaches changing the private IPv4 address of the 6to4 source address in the IPv6 header of an outbound packet to the public IPv4 address (See p. 8, par. 5.1, lines 10-15); and changing the public IPv4 address of the 6to4 destination address of an inbound packet to a corresponding private IPv4 address (See p. 8, par. 5.1, lines 16-21).

4. Regarding claim 4, Carpenter in view of Templin teach the invention as described in claim 3. Carpenter further teaches modifying fields at least of the IPv4 header, such as checksums, whose values depend on the 6to4 source address (See p. 7, lines 1-10).

5. Regarding claim 5, Carpenter in view of Templin teach the invention as described in claim 2. Carpenter further teaches the step of storing the association of the Interface ID and a source address of the encapsulated IPv6 packets of the first network and the step of modifying the destination address of inbound packets or the source address of outbound packets as a function of the Interface ID is carried out by an application level gateway assisting the network address translation mechanism (See p. 9, par. 5.2, line 7 to p. 10, line 3; wherein the 6to4 router is the gateway).

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6. Regarding claim 6, Carpenter in view of Templin teach the invention as described in claim 3. Carpenter further teaches changing the IPv4 part of the 6to4 address are carried out by an application level gateway assisting the network address translation mechanism (See p. 10, lines 2-3; wherein the 6to4 router is the gateway).

7. Regarding claim 7, Carpenter teaches a device for supporting a 6to4 tunneling protocol across a network address translation mechanism, comprising: a network address translation mechanism for changing the private source address of an outbound IPv4 packet encapsulating an IPv6 packet into a public source address (See p. 4, par. 1.1, lines 3-6 & 13, and p. 5, par. 2; wherein the V4ADDR is the private address and the 6to4 address is the public address). Carpenter does not teach an application for storing the private IPv4 addresses included in the 6to4 source address of a host of the IPv6 network, for outbound packets; and for updating the 6to4 destination address of an inbound packet with a stored private IPv4 address having same Interface ID as the 6to4 destination address. However, Templin teaches this limitation (See par. 251, lines 6-12; wherein the gateway is updated upon every transformation of an interface identifier). Using the features of Templin in the system of Carpenter would have allowed the translation table to keep updated as new interfaces were added to the network. Therefore it would have been obvious to one of ordinary skill in the art, at the time of the invention, to combine Templin with Carpenter.

8. Regarding claim 8, Carpenter in view of Templin teach the invention as described in claim 7. Carpenter further teaches the application is further adapted to carry out additional processing of an outbound packet, wherein the additional processing consists

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in replacing the private IPv4 address part of an 6to4 source address of an outbound packet with the device's public IPv4 address (See p. 8, par. 5.1, lines 10-21).

Conclusion

3. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to AFSHAWN TOWFIGHI whose telephone number is (571)270-7296. The examiner can normally be reached on Monday - Friday 8:00 A.M. to 5:00 P.M..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Joseph E. Avellino can be reached on (571)272-3905. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/A. T./

Examiner, Art Unit 2458

/Joseph E. Avellino/

Supervisory Patent Examiner, Art Unit 2458